Managing Scientific and Technical Information in Environmental Cases

Core Principles and Best Practices For Mediators and Facilitators

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I. Introduction

1. Description. This is an evolving and iterative document that is being collaboratively developed by professional mediators and facilitators who work on science-intensive environmental conflicts.

2. Purpose. The aim of this initiative is to distill and disseminate a statement of principles and practices for using scientific and technical information in the resolution of environmental conflict. Through this document, we hope to advance both the practice and theory of environmental mediation.

3. Openness. Ideas, comments, and proposed additions or changes are welcomed from anyone who has an interest in this topic.

4. Working Group. This project is being led by a volunteer drafting group composed of Peter Adler, Ph.D; Martha Bean; Robert Barrett, Esq.; Juliana Birkhoff; and Emily Rudin. Organizational affiliation and support for the project is coming from:

- **U.S. Institute for Environmental Conflict Resolution (USIECR)**
  in Tucson ,Arizona

- **Western Justice Center Foundation (WJCF)**
  in Pasadena, California

- **RESOLVE**
  in Washington, DC

- **The Environment and Public Policy Sector**
  of the Society of Professionals in Dispute Resolution (SPIDR),
  also located in Washington, DC.

5. Time Line. The Working Group hopes to complete an initial draft of this document by December 31, 1999 (or as soon thereafter as possible) and disseminate it to practitioners, business and citizen advocates, government officials, and policy makers after the new year.

6. Contact. This document will be located on the web sites of all four of the supporting organizations. Other agencies and organizations are encouraged to post it, disseminate it, and contribute to it. From time to time the document will be revised and updated. Persons interested in following the progress of it should be in touch with one of more members of the Working Group at the following addresses:

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II. Preliminary Problem Statement

Advocates, policy makers, and adjudicators are increasingly looking for ways to improve environmental decisions. As a country, we need "smarter" outcomes that are conceptually sound, equitable and practical, and that have staying power. Simultaneously, we need to reduce the transactional costs (both human and financial) that are associated with conflicts over the public interest. In the words of Professor Charles Wilkinson, full blown adversarial process too often "tears at our sense of community" and, in the end, "leaves us more a loose collection of fractious subgroups than a coherent society with common hopes and dreams."

The use of strategies based on "joint gains" problem solving, mediation, facilitation, consensus-building offer promise for certain cases. While nobody should view these approaches as a panacea, hundreds of significant cases involving public health, public lands, and natural resource issues have been successfully mediated or facilitated to date. This includes "upstream" cases when rules and policies are being made and "downstream" issues when parties are involved in enforcement, compliance, and litigation. Thousands more cases could be wisely and amicably resolved if good scientific and technical information were properly integrated into the search for solutions.

In environmental disputes, high quality information almost always forms the foundation or backbone for good deliberations and problem solving. How such information comes into the process, is used by the parties, and is threaded into solutions is critically important. Too often, it is an afterthought to the economics and politics of deal-making. In many cases, critical uncertainties are not well addressed by anyone. In other cases, millions of dollars are spent in irrelevant or un-usable research. Finally, agreements that could be forged often fail to be reached because of "warring" scientists who are swept into the inherent side-taking of adversarial litigation. "Joint gains approaches like mediation and facilitation have much to offer to the resolution of America's environmental conflicts but those who advocate for these processes and those who participate in them, pay for them, and use them, must develop more powerful and self-conscious approaches to gathering, sorting, and integrating scientific information. This document attempts to address that need.

(More to be added...)

III. Preliminary Statement of Issues & Questions

1. Prevailing theories of mediation and facilitation typically place a very strong emphasis on "process" and "relationship" management. In science-intensive environmental disputes, are mediators and facilitators being too soft and passive on the substantive aspects of the disputes?

2. Above and beyond high quality communication, negotiation, and process management skills, what "value added" tools and strategies can we bring to the table that will increase the clarity, rigor, and likelihood of good decisions coming out?

3. What are the major challenges and obstacles associated with the integration of scientific and technological data in multi-stakeholder environmental cases?

4. With reference to scientific and technical information, what is the appropriate role for mediators and facilitators?

5. How can mediators and facilitators help disputants effectively manage the warring or "contested" science that is often at issue in environmental cases?

6. How can mediators and facilitators help disputants manage scientific and technical uncertainty?

7. How specifically can mediators and facilitators assist parties in balancing the "Precautionary Principle" with doctrines of "Reasonable Risk"?

8. Are there core principles and practices for using scientific information in the environmental conflict resolution process?

9. If there are logical "rules-of-the-road" for effectively integrating scientific and technological data into consensus-seeking processes, how insistent and forceful should mediators and facilitators be in imposing these on the process?

10. What might a more turbo-charged and information intensive model of conflict resolution look like for science intensive environmental cases?

(More to be added...)

IV. Preliminary Working Assumptions

1. Conflict in the market place of information, data, ideas, and knowledge is an integral part of the environmental conflict resolution process, whether it be in or out of court. This hold true whether the conflicts are "upstream" in the rule making and policy formation stages or "downstream" in the adjudication or enforcement phases.

2. Parties to environmental conflicts typically bring information that supports their position to the table. However, consensus-based environmental conflict resolution is a search for jointly "usable" information which requires a "joint" inquiry.

3. By itself, scientific and technical knowledge is neither a "be-all" or "end-all." There are many different ways of "knowing," hence, many different kinds of "knowledge." "Traditional" knowledge, "cultural" knowledge, "local" knowledge, and "remembered" knowledge all have a place at the table in environmental conflict resolution.

4. All information (regardless of whether it is scientific, technical, traditional, cultural, local, or remembered in nature) is subject to questions about validity, accuracy, authenticity, and reliability.

5. Usable knowledge never remains static. It builds off of new information.

6. No matter how great our information and knowledge base is, our understanding of the world remains incomplete. "Uncertainty" is an ultimate given though it may not be at issue in every environmental conflict.

7. We will never know everything we need to know to make perfect decisions.

8. Uncertainty cannot be ignored. In cases of consequence and impact, some level of research and inquiry by the parties is usually necessary and advisable, either within the conflict resolution process or as part of the outcome.

9. Information and research costs money. The better the research, the more it costs. In mediated environmental conflict resolution, the information, knowledge, and research that is used must be appropriately scaled to the kinds of decisions that under consideration.

10. Scientific and technical research rarely provides definitive and unequivocal answers. There is always room for reasonable people to disagree about both methods and evidence.

(More to be added...)

V. Preliminary Statement of Some of the Information-Related Problems We Encounter

1. There is good scientific or technical information available but the parties don't have access to it. They don't know what they need to know, how to identify it, or who to contact. *Ex: Disputes between competing recreational users (hikers, horse riders, bicycle riders) in a multi-purpose wilderness area.*

2. There is missing scientific or technical information that can be researched and brought to the table but the process of doing this needs to be organized and resourced. *Ex: Conflicts over the traffic impacts of a new golf course.*

3. There is good scientific or technical information available but the parties don't understand it. *Ex: Sewage outfall conflicts and toxicologic studies.*

4. The scientific or technical information disputants are relying on is spotty, doesn't show strong enough correlations of cause and effect, and doesn't lead to an obvious conclusion. *Ex: Disputes over habitat fragmentation, non-point source pollution, or the value of some very small wetlands. Conclusions can be suggested or inferred about cumulative values but there is no completely logical basis for policy on individual areas.*

5. There is salient scientific or technical information that could be brought to the table to enhance decision making but the information is skewed and/or overwhelmed by political spin and media hype. *Ex: Disputes over silicon implants or a highway that is statistically "safe" but perceived to be dangerous (high proportion of dramatic accidents but a low rate).*

6. Despite great amounts of research and inquiry, there is huge scientific or technical uncertainty. The opinions among experts are deeply divided. *Ex: Electro-Magnetic Frequencies as a cancer cause.*

7. There are multiple specialized sciences involved but the consensus of opinion in one area leads to conclusions that are divergent with the conclusions from another. *Ex: Geologists, hydrologists, ecologists, wildlife biologists, and sociologists studying proposed water withdrawals.*

8. There is a fair amount of scientific and technical information available but the science itself is distrusted. *Ex: Irradiating fruits to control insect infestations or putting treated medical waste in landfills.*

9. Scientific or technical information on a given topic is available but the significance of it is unknown or of marginal value. *Ex: The use of computer-generated pictures to simulate the proposed visual impacts of a 138 KV electric line on a ridge over a residential community.*

10. Scientific and technical information exists, the parties know it exists, but they have chosen not to examine that information because they believe it is more in their greater joint interest to reach an agreement without it. *Ex: A pollution case where a defendant settles with plaintiffs without admitting liability.*

VI. Preliminary Statement of Core Practice Principles

1. Risks must be clarified and understood both in lay and in technical and scientific terms.

2. The greater the potential impact and the greater the uncertainty of those impacts, the more research is warranted, either as part of the conflict resolution process or as part of the agreements that are being made.

3. The greater the uncertainty, the more "adaptive" agreements must to be.

(More to be added...)

VII. Preliminary List of Strategies for Mediators and Facilitators

1. Integrate science issues into the conflict assessment . Raise good questions that identify the information issues and needs up front, the kinds of data that people are relying on, and the potential data conflicts that are likely to emerge as a case or project unfolds.

2. At the front end, help coach the parties on the different approaches that might be used to resolve information-intensive issues. If the parties are not professional or technical people, consider bringing someone in to help train them on scientific uncertainty.

3. Explore individual BATNAs to deal with the way in which each party will deal with science uncertainty if there is no agreement.

4. Promote dynamic, heuristic, and adaptive agreements that balance reasonable

stability (which is needed for business assurance) with flexibility, plasticity, and performance-based adaptability (which is needed for environmental assurance).

5. Insure access to all information by all participants

6. Get the parties to jointly decide what is "adequate" information.

7. Lead the disputants through a process of finding and bringing to the table the information they need.

8. Get the parties to identify the experts they need to illuminate the state of available information.

9. Create (or sometimes separate the parties into) sidebar forums that allow the scientists to disagree in a "safe" setting away from lawyers and clients.

10. Work carefully with the parties to frame the questions that the scientific and technical people will need to answer.

11. Get agreement on the criteria that will jointly be needed to select impartial experts.

12. Use an expert to help you facilitate discussions.

13. Choreograph the translation process. Help the group understand the orientation of scientists.

14. Help the technical people translate their information and knowledge to lay and public audiences.

15. Help technical people translate information in plain language and using good visuals (see Edward Tufte's work) so that participants can understand the issues, the data, and the uncertainties

16. Help bridge between the science and the problem at hand by "roping in" the science so that the questions and the information are germane.

(More to be added...)